A Corporate Publication of Santee Cooper

PowerSource®

SUMMER 2006

Fuels Lab Helps Utility Get Its Money's Worth of Coal | **The Value of Electricity** | **One Last Bow for the Myrtle Beach Pavilion**

ENERGY NEEDS MET BY BUILDING GENERATION AND PRACTICING CONSERVATION

In the spring 2006 issue of PowerSource, I reported to you Santee Cooper's plans to construct a 600-megawatt, coal-fired generating station in southern Florence County. In order for us to ensure the delivery of power to Santee Cooper's growing customer base, we've expedited the process and pushed the operating date up two years. The facility is projected to come online in 2012, at a cost of $998 million.

In mid-2007, construction is expected to begin on our generating station at the "Pee Dee site" located in the Kingsburg community, only a few miles from the town of Johnsonville.

Construction To Enhance Region's Economy

The folks living in and around Kingsburg, S.C. are delighted we're becoming a member of their community. We aim to be a good corporate citizen.

During the construction phase, the plant will employ up to 1,400 workers. Once completed, the station is expected to employ approximately 100 people with an average annual salary of $50,000. The construction and permanent jobs will draw from the region, thereby boosting the economic development of the area. We will be building in a part of the state that welcomes the additional job opportunities, as Marion, Williamsburg and Florence counties have some of the state's highest unemployment rates.

Solid Support Received for Generating Station

People living in southern Florence County have been supportive since they heard the news in April that Santee Cooper plans to construct a facility just off S.C. highways 51/41. The coal-fired station will be built on a 2,700-acre tract along the Great Pee Dee River, property Santee Cooper has owned since the early 1980s.

Local leadership is also supportive about the investment in the area, agreeing that the project will have a huge economic impact on the county. State Sen. Hugh Leatherman, R-Florence, said in a recent Associated Press article, "With the construction jobs, followed by the high-wage jobs at the plant, it is one of the greatest pieces of news I've been associated with."

Growth Necessitates Our Expansion

The state's population is growing rapidly every year, upwards of 2 to 3 percent a year. Some areas, such as the Grand Strand region, are growing about 5 percent annually. And Santee Cooper-generated power flows to every one of South Carolina's 46 counties through the electric cooperatives, which are also experiencing growing demands for power.

Santee Cooper must plan for this increased demand for electricity. By building new generation, we're taking steps to ensure our customers have the electricity they need, when they need it.

Others Ways Exist to Meet Energy Needs

Customers can also do their part by putting energy conservation measures to use in their homes and businesses. Energy conservation is an important component to any generation plan.

Conservation means less generation will be needed.

Lonnie Carter
President and Chief Executive Officer

Conservation means customers' power bills will be lowered and decreased demands are placed on our generating facilities.

Conservation is good for the environment.

However, conservation alone cannot solely satisfy the state's growing energy demands of the state. It takes a combination of building and conserving. Take a look at the conservation article in this issue of PowerSource, part one of a series, to learn more about Santee Cooper's conservation efforts.

Through responsible building and conservation efforts, we are working to ensure the continued delivery of low-cost and reliable power. By doing so, we help achieve our mission of improving the quality of life for the people of South Carolina.

Santee Cooper®

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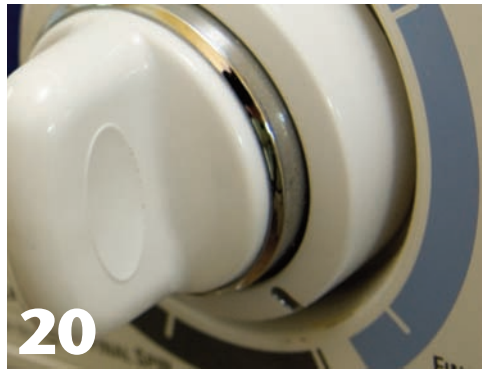
e-mail: bfondren@santeecooper.com

Beth Fondren—Editor
WIllard Strong—Writer
Jill Watts—Writer
Jim Huff—Photo Editor/Photographer/Writer
Tom Galmarini—Designer



Cover: *Santee Cooper burns nearly 8 million tons of coal each year, accounting for about 75 percent of the utility's generation output.*

Coal Keeps the Lights On

Touring a Kentucky Coal Mine

Did you know that each person in the United States uses about 20 pounds of coal every day?

Did you know that eight out of every 10 tons of coal mined in the United States is used to generate electricity? Did you know that a pound of coal supplies enough electricity to light 10 100-watt light bulbs for an hour? Did you know that it takes 1.12 pounds of coal to operate a color television for eight hours?

Coal is a fuel of today and of the future. Since the first coal-fired unit in Santee Cooper's system went online in 1966, coal has been the primary fuel source for Santee Cooper-generated electricity. Other fuel sources now used by the state-owned electric and water utility include hydro, oil, nuclear, natural gas, landfill methane gas and purchased power.

Above: *This high-wall mining machine, costing $6.2 million, mines with precision. Using an auger and conveyor belt, the machine pulls coal from the mountain from as deep as 900 ft.*

Right: *Reclamation following surface mining is important. Here, a front-end loader puts industrial-grade coal into a dump truck to be taken to a local manufacturer for use in their work process.*


Ridgewood
TRUCKING
22
CATER

Above: *Brian Patton III, president of James River Coal Service Company based in London, Ky., discusses the high-wall, surface mining operations going on around him.*

Left: *The entrance into the mountain is made by high-wall surface miner. The machine punches an opening 4 feet tall and 9.5 feet wide where the coal is mined and removed mechanically.*

Coal plays a vital role in Santee Cooper's daily operations, burning nearly 8 million tons each year. "Santee Cooper will spend approximately $785 million on fuel this year. That includes the price of natural gas, nuclear, oil, coal, purchased power, and related costs such as rail and gas pipeline transportation," says Danny Wright, Santee Cooper's procurement manager. "Coal is approximately 64 percent of that cost. However, it will contribute approximately 75 percent of today's generation output, which makes it one of our low-cost options from which to produce energy."

Coal is a combustible, organic-rich, sedimentary rock formed from plants that flourished millions of years ago. Coal's main organic component is humus, often used in flower beds and gardens.

According to the Encyclopedia Britannica Online, layers of mud and sand accumulated over the decomposed plant matter, compressing and hardening the organic material as the sediments deepened. Over millions of years, as much as 360 million years, deepening sediment layers exerted tremendous heat and pressure on the underlying plant matter. Carbon, hydrogen, oxygen, nitrogen, sulfur and inorganic mineral compounds in the plant matter cause coal to form, which is found in layers called seams. The named and numbered seams range in size from 28 inches to 14 feet tall and can stretch into a mountain for miles.

Coal, petroleum, natural gas and oil shale are all known as fossil fuels because they come from the remains of ancient life buried deep in the crust of the earth. Coal is the most abundant fossil fuel.

When experts develop estimates of the world's coal supply, they distinguish between coal reserves and coal resources. Reserves are coal deposits mined profitably with existing technology or current equipment and methods. Resources are an estimate of the world's total coal deposits, regardless of whether the deposits are commercially accessible.

Would you be surprised to learn that America has more energy potential in the form of coal than in all the oil of the Middle East? In fact, according to the Alexandria, Va.-based non-profit organization Balanced Energy, America's recoverable coal has the energy content equivalent of 1 trillion barrels of oil, a figure roughly comparable to the world's known oil reserves.

At the beginning of the 21st century, coal production in the United States amounted to about 980 million metric tons annually. In 2002, estimates of total U.S. coal reserves were approximately 246 billion metric tons, based on current consumption rates.

Coal produces things other than electricity. Steel manufacturers use coal to produce their products while chemical companies use coal to make medicine, fertilizers, pesticides and other products.

According to the American Coal Foundation, a non-profit, education organization based in Washington, D.C., coal evolves into four categories, or ranks:

Top: *Roof bolts used to help secure the ceiling in the room and pillar type of mining.*
Bottom: *Rick Campbell, superintendent of Leeco underground mine no. 68, leans against the rail car used to deliver employees to and from the mine.*

Lignite – Geologically young coal having the lowest carbon content of 25 percent to 35 percent, and a heat value ranging between 4,000 and 8,300 British thermal units per pound. Sometimes called brown coal, it is mainly used for electric power generation.

Subbituminous – Ranking below bituminous coal with 35 percent to 45 percent carbon content and a heat value between 8,300 and 13,000 Btus per pound. Reserves are located mainly in a half-dozen Western states and Alaska. Although its heat value is lower, this coal generally has a lower sulfur content than other types, which makes it attractive for use because it is cleaner burning.

Bituminous – The most plentiful form of coal in the United States. Primarily used to generate electricity and make coke for the steel industry. The fastest growing market for coal, though still a small one, is supplying heat for industrial processes. Bituminous coal has a carbon content ranging from 45 percent to 86 percent and a heat value of 10,500 to 15,500 Btus per pound.

Anthracite – Coal with the highest carbon content, between 86 percent and 98 percent, and a heat value of nearly 15,000 Btus per pound. Most frequently associated with home heating, anthracite is a very small segment of the coal market in the United States. There are 7.3 billion tons of anthracite reserves in the United States, found mostly in 11 northeastern counties in Pennsylvania.

Coal is found in countries around the world, but the largest deposits are found in Asia, Australia, Europe and North America. According to the U.S. Geological Survey, coal reserves in the United States are located in five major regions. They are the Appalachian Basin, Illinois Basin, Gulf Coast, northern Rocky Mountains and the northern Great Plains, and the Rocky Mountains and Colorado Plateau. The Black Thunder Coal Mine in the Powder River Basin in Campbell County, Wy., part of the northern Rocky Mountains and the northern Great Plains region, holds the record of the largest mine in the country, supplying nearly 7 percent of the United States' coal supply. James River Coal Company ranks as the sixth largest coal producer in Central Appalachia and the fifth largest in the Illinois Basin.

The most productive coal region in the United States is the Appalachian Basin, covering parts of Pennsylvania, West Virginia, Kentucky, Tennessee, Ohio and Alabama. The Appalachian Basin is divided basically into 3 regions, Northern, Central, and Southern. Santee Cooper receives all of its coal from the Appalachian Basin with 82 percent coming from the Central region (specifically eastern Kentucky) and 18 percent from the Northern region (southwest Pennsylvania). About 23 percent of Santee Cooper's coal comes from the coal mines of the James River Coal Company located in eastern Kentucky.

James River Coal owns five operating coal companies in the Central Appalachia Coal Basin region. Bell County, Beldsoe, Leeco, McCoy-Elkhorn and Blue Diamond make up James River Coal, which also owns and operates Triad Mining, an Indiana coal mine.

James River Coal was formed through the acquisition of several coal entities, some having undergone name changes. A coal supplier to Santee Cooper since 1981, they currently supply the utility with the largest quantities of coal, providing approximately 2 million tons of coal each year. Santee Cooper places second in their customer list.

James River Coal employs approximately 1,350 employees with an average employee age of 41. The coal mining profession runs in families. They currently have a father, son and grandson working at the company.

Left page: *These augers are part of the high-wall surface mining equipment.*

Right: *Superior technology along with Siemens software makes this machine an integral part of James River Coal Company's everyday operations.*

Brian Patton III, president of James River Coal Service Company based in London, Ky., says mining is in his blood. "I'm a fourth generation miner on my father's side and fifth generation on my mother's side. I tried to leave a while back. That only lasted a short time. I had to come home. It's in my blood."

Average compensation for a miner ranges from $18 to $20 per hour and an electrician can expect $22 to $25 per hour. According to 2002 figures available from the Kentucky Coal Foundation, the average annual wage was $22.90 per hour.

Labor continues to be a problem in the coal mining industry. It's dangerous, dirty work in confined spaces. Competition comes from a Toyota assembly plant in Georgetown, Ky. where employees can make comparable wages and benefits in a clean, air-conditioned facility.

"We have a dedicated work force. These are just the greatest people in the world to work with," says Bob Beasley, a 41-year veteran of the coal mining industry and president of James River Coal Sales. "They are proud people, deservedly so."

Mining has become much safer and more efficient over the years. In 1980, more than 220,000 coal miners worked in the country. Today, fewer than 100,000 remain. But while 1980 production totaled about 800 million tons, today the United States produces over 1 billion tons with fewer than half the number of miners.

Those tons of coal are mined using two primary methods: surface mining and underground mining. More than 1,000 surface mines and more than 1,000 underground mines exist in the United States.

To extract coal from James River Coal's 27 active mines, both methods are employed. Surface-mining techniques reach coal reserves that are too shallow to be reached by other mining methods. They include surface high-wall mining, mountaintop removal and contour/auger mining.

Top: *The high-wall surface mining equipment operates five days a week, 12 hours each day. Here, high-wall miner operator Ronnie Goines takes the early shift.*

Below: *At the prep plant in Buckeye, coal is washed and sorted.*

Right page: *Bituminous coal is delivered from the drift mines at the Blue Diamond coal mine via conveyor belts.*

Surface high-wall mining leaves minimal surface disturbance. The coal mining company restores the property to its original state with replanted trees, shrubs and grasses. This type of mining involves a great deal of sequence planning.

Patton says, "At Buckeye, we mine about 1,500 to 2,000 tons of coal a day or 1 million tons a year. The folks working here (at the surface high-wall mining site) know the value of communicating and keeping things moving."

Contour/auger mining occurs on hilly or mountainous terrain, where workers use excavation equipment to cut into the hillside along its contour to remove the overlying rock and then remove the coal. The depth to which workers must cut into the hillside depends on factors such as hill slope and coal bed thickness.

Mountaintop removal mining is planned for the future.

When a horizontal seam of coal emerges at the surface on the side of a hill or mountain and the opening into the mine can be made directly into the coal seam, drift mining emerges as the preferred type of mining. Excavation through rock isn't necessary, making this type of underground mining generally the easiest and most economical type.

Drift mining means tunneling into the mountain, making "rooms," with pillar supports made of coal, in which to mine. When using the room and pillar mining technique, roof bolts, consisting of rebar and steel plates, also provide support for the mine's ceiling.

Other types of underground mining techniques include slope mining and shaft mining. Slope mining occurs when an inclined opening taps the coal seam(s). In slope mining, a belt conveyor removes the coal from the mine.

James River Coal uses surface high-wall techniques to retrieve coal from the Hazard No. 8 seam at Buckeye. Crews operate machinery to tunnel up to 900 feet into the mountain. The high-wall mining machine, a $6.2 million piece of equipment manufactured by Superior and features Siemens computer technology, punches 4-foot tall by 9.5 feet wide cuts into the mountain. The machine pulls coal out of the mountain, puts it on a conveyor belt that takes it to large trucks to move the coal to a prep plant located at the bottom of the mountain.

Washing and sorting coal occurs in the very noisy prep plant. Anything that's not coal gets removed. The machinery sorts the coal according to size while continuously washing the black nuggets.

Santee Cooper's generating stations requires two-inch coal that is pulverized into a fine dust at the stations. "That's the maximum size our plants can handle," says Jim Owens, contract analyst in Santee Cooper's Fuel Procurement department. "This is an important step in the mining process."

In the hollow behind the prep plant stands a large earthen dam. At the time of its construction in 1989, it claimed to be the largest earthen dam, in terms of cubic feet of soil, east of the Mississippi River. The dam was built to provide a storage facility for the

At the Clover Load-out in eastern Kentucky, a rail car is loaded in about four hours. Each car holds about 110 tons of coal.

slurry and refuse removed from the coal at the prep plant. Water for the prep plant collects behind the dam or originates from a stream located a few hundred feet away.

"We couldn't afford the water if we had to pay for it. We have to rely on Mother Nature," says Darrell Moreland, vice president and general manager of James River Coal.

Just around the corner from the prep plant appears the entrance to a slope mine. Employees board a railcar, about 7 feet wide and 5 feet tall. About 20 employees ride at one time. They journey roughly 840 feet underground at a 15-degree angle. Inside the mine, a total of 133 employees work the four sections, three shifts per day.

Head east from the Buckeye mine about 20 miles and James River Coal's Leatherwood facilities come into sight. Here sits the Blue Diamond Coal Company with three drift mines, a slope mine and a load-out facility.

The coal from Leatherwood has a low sulfur content, low ash level and a 12,500-13,200 Btu range. However, it's not the same at all coal mines. Each mine has coal containing different qualities. And, each generating station at Santee Cooper has specific requirements and restrictions on Btu output, sulfur, ash, moisture and grindability, so everyone must pay careful attention to what coal goes where.

The quality of the coal is the critical factor when purchasing coal. "Quality limits the coal districts and mines from which we can obtain the majority of our coal," says Wright.

Other important factors are financial stability of the suppliers, proven reserves to ensure compliance with the required quantity and quality and the mine locations.

Once the coal is mined, it must make the trip from the Bluegrass State through CSX Transportation's Erwin Gateway to the Palmetto State, a 600-mile journey.

The detailed, coordinated effort must be handled accurately. Remember, each generating station at Santee Cooper has its distinct requirements for coal.

At Santee Cooper, that responsibility lies with Kathy Scott, the utility's fuel and transportation coordinator. At James River Coal Service Company, Tom Slone, transportation manager, helps keep the trains on schedule with the quantity and quality coal specified by Santee Cooper.

It takes about four hours to load a coal train and about five hours to unload it. Each train has between 90-95 cars. Each car holds 110 to 116 tons and each train represents approximately $400,000 in coal. Each train normally pulls some of the 1,770 railcars owned or leased by Santee Cooper and travel along CSX lines during its eight to nine-day journey to coastal South Carolina.

As Dewey Smith, foreman of the Clover Load-out, loads a railcar heading for Florida, Beasley remarks, "What he's doing right now represents between $400,000 and $500,000 to James River."

Smith replies, "I've been in the mining business for 34 years and I like what I'm doing. I know I have to be exact in this step (of the process) so that the company can make money."

Beginning in 2004 and until recently, railroad companies have not been able to keep up with demand for coal transportation. For various reasons, the railroad companies have not been able to provide the services required.

"Simply stated, the demand exceeded their capacity to perform," says Wright. "This impacts Santee Cooper because our stockpiles of coal will go below acceptable target levels, and it prevents us from using our railcar fleet in an efficient, optimum manner, which increases delivery costs."

Transportation costs are based on weights, which are calculated at two places: once at the load-out facility and then again at Santee Cooper's generating station. These weights, along with sample results, determine how much Santee Cooper pays for the coal.

At the various James River Coal load-out facilities, samples are taken every 60 seconds while the railcars are being loaded. James River Coal Company then tests the samples at their laboratories. When the coal reaches its destination at a Santee Cooper generating station, samples are taken again and sent to Santee Cooper's Fuels Lab in Moncks Corner, S.C. for analysis. (See article on page 16.) Santee Cooper and James River Coal run tests on each shipment, and the variances are negligible. Santee Cooper pays James River Coal based on the utility's results. Premiums may be paid and penalties may be charged for any results that are outside of the guaranteed specifications.

Machinery at the prep plant sorts the coal by size.

Santee Cooper works hard to keep coal cost down. According to Wright, there are several obstacles to consider:

- Short supply of coal mine labor. Increased labor cost increases the cost of coal.
- For the last two years, materials (especially metal for roof bolts, diesel for equipment and trucks, and tires for trucks and mining equipment) have been in short supply due to the world market demand for these products. Prices will continue to reflect increased costs for these and other items until the demand decreases.
- Limited reserves of the type coal used at Santee Cooper. Reserves in Eastern Kentucky are depleting along with a corresponding decrease in production.
- Energy markets. Coal will follow the up and downs of other energy markets. If natural gas goes up, as it did following the hurricanes of 2005, then coal will follow as this increases the demand for coal.

"We do what we can to keep the cost of coal low on our end so we can be competitive," says Beasley. "The equipment is expensive, labor prices keep increasing and new regulations may be implemented that increase costs.

"The coal mining and electric utility businesses are probably two of the most regulated industries, especially in safety terms," continues Beasley.

Strict regulations are in place concerning air quality in the mines as well as safety policies and procedures. The U.S. Department of Labor, Mine Safety and Health Administration inspects all mines and conducts safety and health conferences. On the state level, the Kentucky Environmental and Public Protection Cabinet provides oversight on coal mining activities.

Each employee at James River Coal must complete a 24-hour safety training session before he or she is allowed into a mine, with refresher courses held on a regular basis.

In early 2006, much press coverage appeared concerning the coal mining accidents occurring in West Virginia and Kentucky. "It goes without saying that this is a dangerous business, and our employees take it seriously. Just two months ago, our mine rescue team went to the Darby mine to help rescue and recover trapped miners. We're very proud of them," remarks Beasley.

Kenny Hoskins, superintendent of the Clover Load-out facility, oversees the daily operations of loading rail cars and coordinates shipments with CSX.

Not only are the coal mines regulated in terms of safety, they must also adhere to many environmental regulations.

Today, coal companies reclaim all surface-mined land equal to or better than it was prior to mining. Kentucky mining companies have received five national reclamation awards in 1999 through 2001 for outstanding achievement in surface mining and received a total of 27 awards in the past 16 years.

"We do everything we can to protect the environment," says Beasley. "We return the mountain as close as possible to the way we found it."

Kentucky coal mine operators have paid over $872 million into the Federal Abandoned Mine Land (AML) Fund since 1978 to reclaim abandoned coal mines. Nationwide, operators have paid over $6.56 billion into this fund. However, $1.44 billion remains unallocated for AML reclamation, so says the Kentucky Coal Council and the Kentucky Coal Association on their Web site, www.coaleducation.com.

Stop for a moment and think about what it takes to get the electricity to your light switch or socket. Where does it start? It begins with a fuel source. And for three-quarters of Santee Cooper's power, that fuel source is coal.

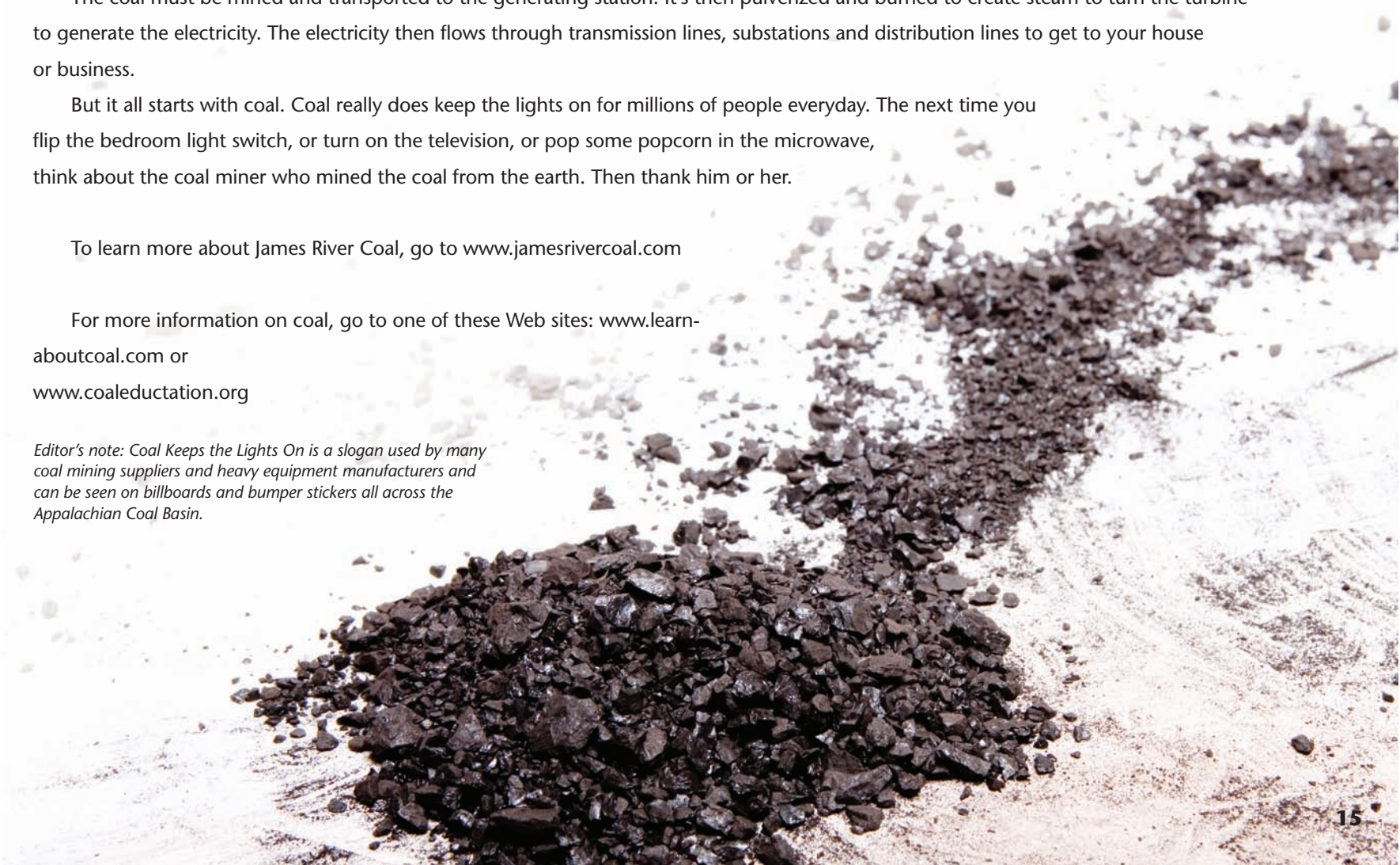
The coal must be mined and transported to the generating station. It's then pulverized and burned to create steam to turn the turbine to generate the electricity. The electricity then flows through transmission lines, substations and distribution lines to get to your house or business.

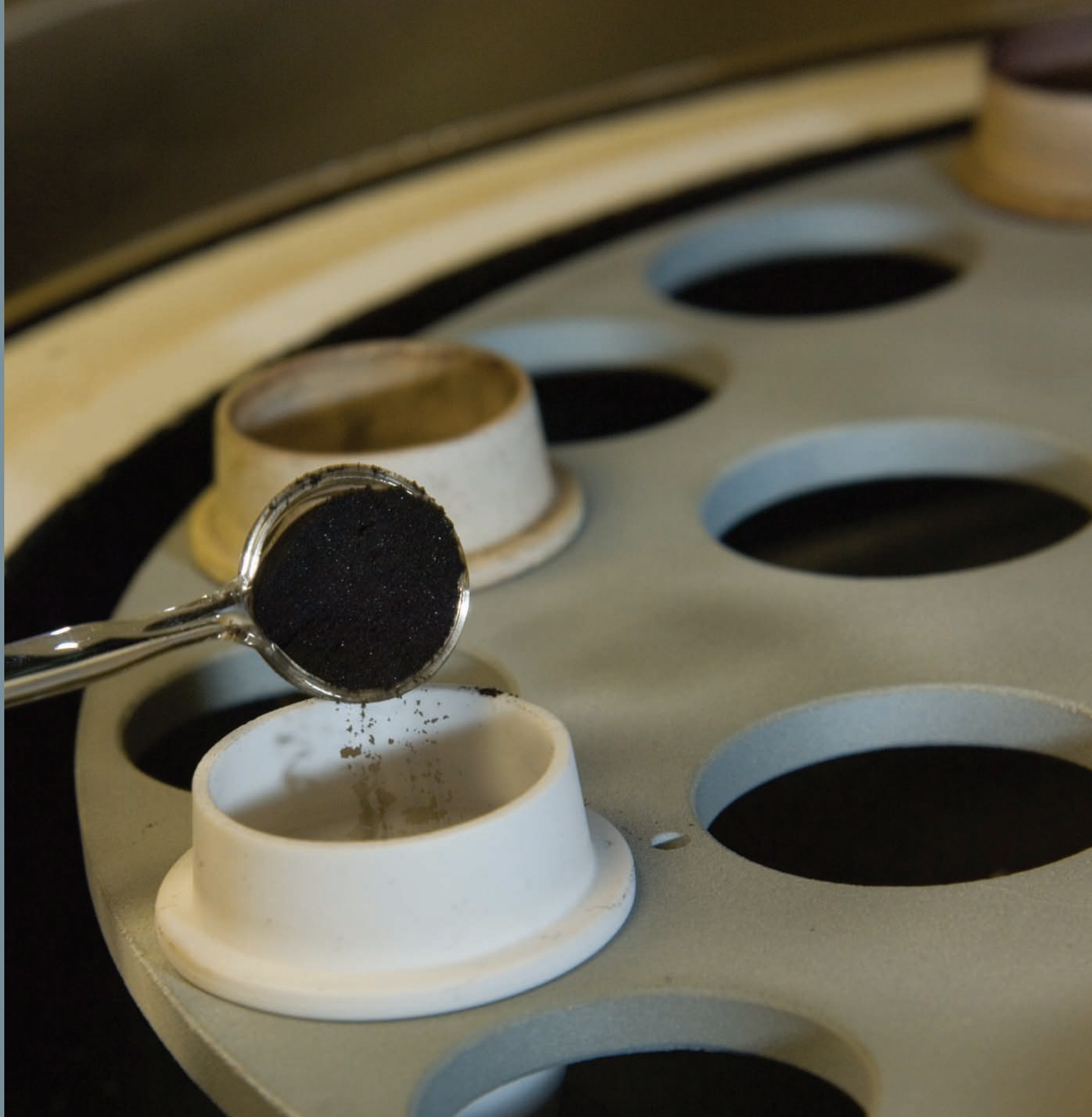
But it all starts with coal. Coal really does keep the lights on for millions of people everyday. The next time you flip the bedroom light switch, or turn on the television, or pop some popcorn in the microwave, think about the coal miner who mined the coal from the earth. Then thank him or her.

To learn more about James River Coal, go to www.jamesrivercoal.com

For more information on coal, go to one of these Web sites: www.learn-aboutcoal.com or www.coaleductation.org

Editor's note: Coal Keeps the Lights On is a slogan used by many coal mining suppliers and heavy equipment manufacturers and can be seen on billboards and bumper stickers all across the Appalachian Coal Basin.





Fuels Lab Helps Utility Get Its Money's Worth in Coal

It's all about the Coal

On a warm, blustery afternoon in early June, a railroad train totaling 100 cars and stretching over a mile lumbers into the Cross Generating Station. The train completes a 600-mile trip from the coal mines of Kentucky to deliver more than 11,000 tons of coal. Coal is a precious fossil resource that is the source of fuel for approximately 75 percent of the power generated by Santee Cooper, accounting for 19,033 net megawatt-hours.

Prior to departure from the mine, the coal vendor routinely tests the coal for qualities such as British thermal unit (Btu) value and sulfur content. Upon receipt of the coal, Santee Cooper will perform similar analyses.

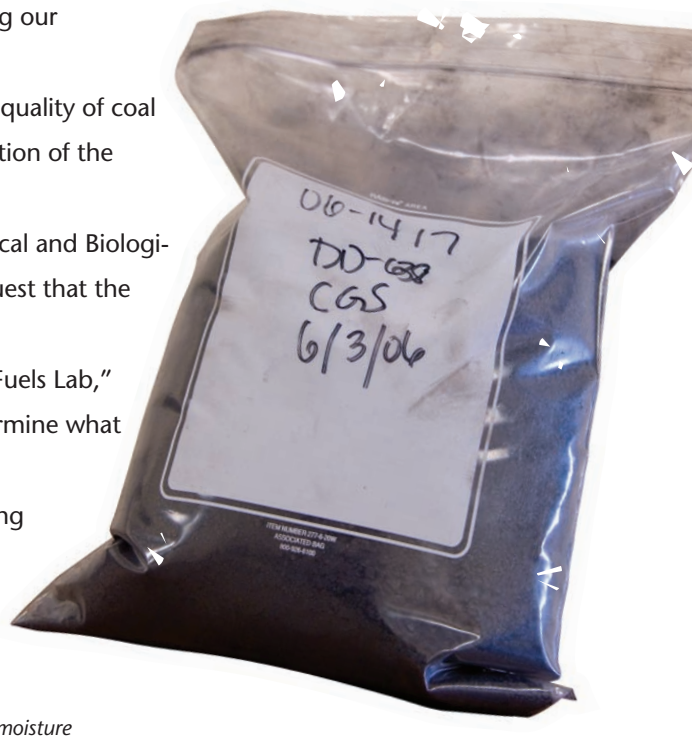
"Our measurements are compared with those of the coal company to make sure they coincide and to guarantee that contract specifications are met," according to John Inabinet, administrator of environmental resources. "The primary purpose of our coal testing is to determine the quality of the coal to make certain we're getting our money's worth."

Santee Cooper's fuel quality control is critical. According to each contract, the quality of coal impacts bonuses and penalties worth tens of thousands of dollars, a significant portion of the fuel budget.

"Our analysis is the final analysis for most contracts," says supervisor of Analytical and Biological Services Larry McCord. "If our results are different, the coal company may request that the coal be retested."

"Coal testing is the primary function of the Analytical and Biological Services' Fuels Lab," says McCord. "The coal from each train is sampled and tested, and this helps determine what Santee Cooper pays the vendor."

Over the years, the fuels lab function has transitioned from individual generating station fuel labs to a single centralized lab at Santee Cooper's corporate office complex. Today, five employees operate in a modern, well-equipped lab. The



Right: *A coal sample for Cross Generating Station.*
Left: *A prepped coal sample is added to a crucible of the thermogravimetric analyzer to determine the moisture and ash content.*

Technical Associate Dean Ganey loads a rack of coal sample boats into an analyzer that measures sulfur content.

outcome is greater consistency in test guidelines and analysis and fewer challenges of test results by the vendor.

An auto-sampler at each generating station pulls coal samples from the conveyors, which move the coal from the railcars to the coal pile. An estimated 110 to 120 samples are cut per train representing a composite of coal from all 100 cars.

"Coal samples totaling 10 kilograms from each train are collected and tested," says Engineering Associate Brian Lynch, who is in charge of the fuels lab. "In the lab, the coal sample is pulverized and reduced to 50 grams.

"We test for several key contract points," adds Lynch. "These include British thermal unit value, sulfur, ash and moisture content as well as hardness or grindability."

"For years, we had a small number of long-term contracts. Today, we have some 15 to 20 contracts," says McCord. "This paradigm shift means greater variation in the attributes of the coal."

Every coal contract has a negotiated Btu value. The Btu is a standard unit for measuring a quantity of heat energy, such as the heat content of fuel. Lower value results in penalties for the vendor and higher value results in bonuses.

Sulfur requirements vary from unit to unit at Santee Cooper's generating stations housing 10 coal-fired units. Sulfur dioxide scrubbing technology, which removes the sulfur dioxide, enables some units to burn coal with higher sulfur content.

The amount of ash, the component in coal that does not burn, is also negotiated in the contracts. A range of 5 to 10 percent ash in the bituminous coal we primarily burn is allowable. The major components of ash are oxides, such as silica, iron, aluminum, potassium and manganese. Higher ash content results in a lower Btu value.

Moisture content is also a significant coal variable. Both the surface moisture and the residual moisture present after grinding the coal are combined for total moisture content. Higher moisture content makes handling the coal and crushing it more difficult and the Btu value is reduced as well.

The hardness of the coal impacts the grinders and pulverizers in the station, which reduce the coal to a fine powder for fueling the boilers. Harder coal wears out the grinders and pulverizers more quickly; therefore, all coal is tested for grindability.

Debra Guerry, technical associate, sets up a seive shaker in the coal prep lab to test a train sample for grindability.

"All of these key points are accessed upon receipt of the coal," says McCord. "Payment is not made until testing by the fuels lab is completed and submitted to Fuel Procurement."

Additional Testing Capabilities

"The analysis of coal is our primary function, but we are about as full service a fuels lab as you can be," adds McCord. "We also work closely with the individual generating station results labs and Environmental Management engineers for performance testing."

Samples are pulled as the coal is about to be burned in the boiler and "as fired" analyses is performed. This testing is key to determining the production efficiency or "heat rate" of each generating unit by comparing the Btu content of the coal with the amount of electricity that is generated.

"We also assist the results labs on any troubleshooting issues that might affect station performance," adds Lynch. "Basically, any lab testing in support of Santee Cooper's generation. Whether for coal, oil, pet coke, fly ash or wood chips, we're responsible."

In the Final Analysis

"As Santee Cooper generation grows, so does the demand for fuel testing," says Inabinet. "And our Analytical and Biological Services fuels lab will continue to meet the challenge of providing dependable, accurate and consistent analysis to help fulfill the need for high quality fuel to produce reliable electricity for Santee Cooper's customers."

Additional Responsibilities of Analytical and Biological Services

Analytical & Biological Services has responsibility for laboratory analysis of surface water, ground water, drinking water, transformer oils and combustion byproducts. Sampling services are performed on company properties as well as ambient monitoring on the Santee Cooper Lakes and tributaries. This group is also responsible for aquatic plant management on the lakes and on other Santee Cooper properties as necessary.


7 TEMPERATURES
WARM WARM
COLD COLD
COLD COLD
WARM COLD
WARM WARM
HOT COLD
WASH
AutoTemp
EXTRA RINSE
COTTONS / EASY CARE / ULTRA CARE
ON
OFF
DOOR LOCKED
FINAL SPIN SPEED
RPM
NORMAL
FAST
850
450
650
850
950
650
900
950
ULTRA CARE
DELICATES
FINAL SPIN
WRINKLEFREE
PERM PRESS
EASY CARE
PULL TO START / PUSH TO STOP
FINAL SPIN
FINAL SPIN
QUICK WAS

The Value of Electricity

val·ue P Pronunciation Key (vly) n. – an amount, as of goods, services, or money, considered to be a fair and suitable equivalent for something else; a fair price or return.

Today, most of us are accustomed to microwave ovens, perma-press, blenders, juicers, fast food and built-in vacuum systems. Few of us would argue that the advances in technology combined with the availability of electricity have markedly improved our lives.

But how much do we value it? Most of us probably take it for granted. Take air conditioning for example; many of us haven't experienced life without it. As summer approaches and temperatures soar, we think the cooled air that floods over us as we enter our home after a hard day's work has always been around. But, there was a day not so long ago when there was no taking electricity for granted.

"Life moved at a slow pace in the days before air conditioning. A rest or nap in the middle of a summer day was not a sign of laziness, it was a necessity. There was almost no electricity in the more remote rural areas, although a few towns such as Myrtle Beach, Moncks Corner, and Conway had small independent generating plants. For the vast majority of South Carolinians who lived on farms, the 1930s could have just as easily been the 1830s.

Mechanization was almost unheard of. Farmers still walked their plows behind mules. Meat had to be smoked and vegetables and fruits canned in the same ways they had been eaten for centuries-for there was no refrigeration. Wash day meant that the farm housewife had to boil her wash in an old iron wash pot out of doors. Clothes were pressed by irons heated on the back of wood burning stoves or on the edge of fireplaces. All cooking was done over a wood stove. Kerosene lamps supplied what artificial light there was. Life was hard for all rural South Carolinians."

Walter Edgar
"History of Santee Cooper 1934-1984"

Left: *Front-loading washing machines use less water and detergent and are more energy-efficient than top-loading washing machines.*

Below: *Clothes washers and dryers look much different today than they did 50 years ago. Absent are the washboards, rollers, cranks, clothes-lines and clothespins.*

Right: *Ceramic top, electric ranges are the norm today, replacing resistor heating coils.*

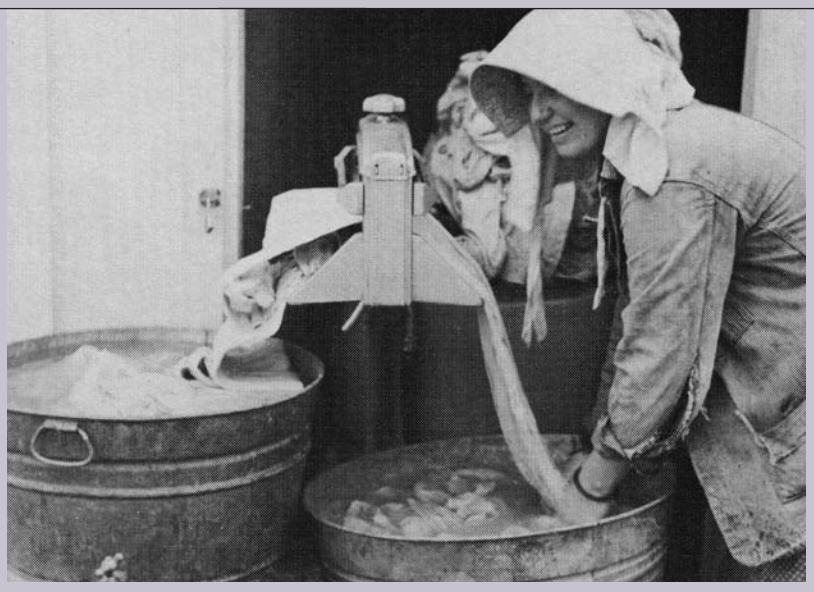
By the 1950s, a ray of new hope was being introduced in South Carolina homes, and it was electricity. Back-breaking work around the farm and in the home was reduced. Pumps brought running water inside the home and made the outside privy a thing of the past. Electric water heaters meant convenient and fast warm baths. Refrigerators eliminated the need for a smokehouse for the meat or a spring house for the milk and butter.

By 1960, almost everyone living in Santee Cooper's three-county service territory had access to electricity. Refrigerators, ranges, washers and dryers, mass-produced for over a decade, were flooding the market. Refrigerators were hot, with more than 80 percent of American homes having one! No more manual defrosting models with small freezer compartments tucked inside. No more metal ice cube trays either! Many new models had ice makers and were frost-free!

By 1970, electric range cook tops were made sleek and more efficient using glass ceramic instead of resistor heating coils. Convection ovens that used streams of hot air were becoming popular. Avocado green and harvest gold were eventually all the rage. And, one of the most time- and energy-saving devices for the kitchen was introduced, the microwave oven. Previous models were used in the commercial sector, but by 1976, 60 percent of American homes contained a microwave oven.

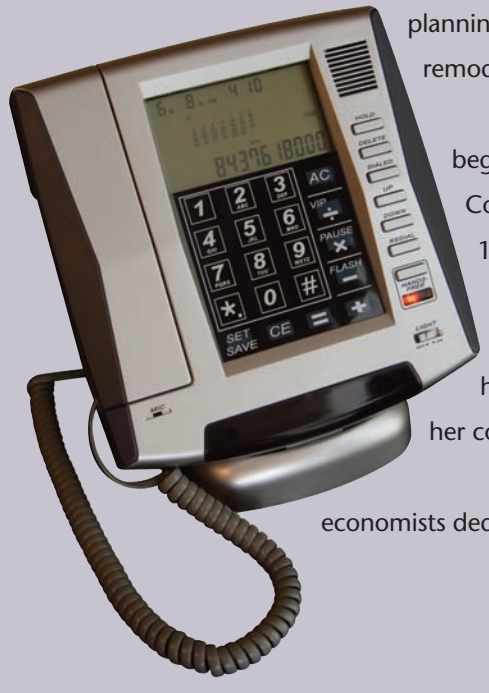
Even with these big improvements, the homeowner had to be convinced these gadgets could do the trick. Major manufacturers promoted their new product lines via tours across the country. Electric utilities employed home economists to give demonstrations about the uses of new appliances.

In 1972, Santee Cooper established a sales and marketing department.



"Sales efforts took on a new dimension in offering personal attention and expertise to customers," according to Santee Cooper's 1971-1972 annual report. "The sales team will be backed up by a modern kitchen, which was approved for installation in Santee Cooper's Conway office."

The report continues by saying, "The kitchen will be used to assist customers with kitchen planning for new homes or remodeling projects."



In 1967 Sara Frances Way began working with Santee Cooper as a home economist. A 1967 Lander College graduate with a degree in home economics, she was excited about her career choice and putting her consumer science skills to work.

"We were taught that home economists dedicated their lives to making life better for people," states Way. And that's just what she began doing.

"It was an exciting time. There was an excitement about the all-electric home and all the new appliances that were available."

Way described the beautiful kitchen and community auditorium located at Santee Cooper's Myrtle Beach office at 21st Avenue and Oak Street. She says, "I spent many hours designing a new kitchen demonstration facility for our Myrtle Beach office and equipping it with the latest technology. The floor plan and layout were designed to maximize efficiency."

Much of Way's work was educating customers on appliance selection and use, kitchen layout and design, food preparation using the new appliances and efficient lighting.

Working with individual homeowners and groups, Way was the face of Santee Cooper, visiting new and remodeled homes and using the new kitchen for demonstrations to garden groups and Girl Scouts alike.

A 1969 article, written by Way, gives a picture of what appliance education of the day was all about. The picture shows a housewife clad in a dress and apron loading a harvest gold clothes washer. The latest teapot-dotted wallpaper appears in the background. The article states:

With the automatic electric washer and dryer, she can wash whenever she wishes. The clothes dryer is designed to dry all fashions. With present-day finishes, the automatic dryer eliminates the need for ironing much clothing and household linen. Clothes can be dried in any weather.

When the microwave oven was introduced, Way shared hundreds of recipes appropriate for cooks to use as they learned the marvels of the new way to cook. Holidays were an especially

Above: *Dispensing water and ice through the refrigerator door is a convenience found in many homes today.*

Right: *A ceiling fan allows you to comfortably raise the thermostat setting about 4 degrees Fahrenheit. Ceiling fans consume as little energy as a 60-watt bulb, helping reduce electricity usage.*

busy time for recipe sharing and demonstrations. Many cookbooks were produced over the years. The electric cooperatives served by Santee Cooper were also working with their customers.

Way worked closely with Leo Knauff, the home economist at the time at Horry Electric Cooperative.

"The cooperatives also have a rich history of customer contact. Leo and I often worked on demonstrations over the years. I'm sure many people still remember her. She was known throughout South Carolina," says Way.

The lobby of Santee Cooper's Myrtle Beach office was filled with the latest appliances. As customers came to the office to pay their power bill, they could see the latest, most modern equipment, such as electric ranges and water heaters, as well as what the appliances could make, such as cakes and pies. People appreciated the time-saving conveniences that the new appliances had to offer, and they were eager to learn all about them.

"I was always told everyone that we were here for the customer, and we never took them for granted. The theme of improving the quality of life for South Carolinians was not just a slogan," Way says.

Way explained that the philosophy has never changed although her job duties and other Santee Cooper programs and services have.

In the mid 1970s and 1980s, as an energy crisis began to touch everyone's pocketbooks, Santee Cooper began promoting the newest program, The Energy Efficient Home, which replaced The Gold Medallion Home. Electric heat pumps became a primary focus of The Energy Efficient Home program. Way worked with educators and students, and then eventually with trade groups such as heat pump dealers, plumbers and building contractors.

In later years, the efficient use of energy was emphasized even more. Services such as heat pump sizing for residential and commercial customers and educational programs on energy-efficient construction standards became mainstays of retail programs.

Today, in 2006, Way is still close to the customer, if only for a short while longer. She retired June 30. "The programs will continue to change as customers' needs change. But the philosophy of personal attention and expertise for our customers will never go out of style," Way empathically states.

So, is electricity something we take for granted almost like air and water?

Do we marvel at our high tech world with DVDs, pocket organizers, GPS devices and mobile phones, but sometimes take the household appliance for granted? The next time that household appliance seems less glamorous among the interactive, dancing electronic gadgets, just think what our lives would be like without them!

WHAT DOES A DOLLAR BUY … TODAY?

Appliance	Power Requirement	Quantity Purchased for $1
KITCHEN		
Dishwasher	1,300 watts with electric water heater	3 Loads
Microwave Oven	750 watts	18 Hours
Coffee Maker	1,000 watts — 15 Minutes	55 Pots
LAUNDRY and BATHROOM		
Clothes Washer	500 watts — electric water heater, warm wash, cold rinse	5 Loads
Clothes Dryer	5,000 watts, full load, medium temperature	3 Loads
Iron	1,000 watts, medium temperature	14 Hours
ENTERTAINMENT		
Television	125 watts — Typical wattage for a 27-in. TV	102 Hours
Personal Computer	200 watts, with 100-watt monitor and 100-watt printer	34 Hours

Definitions:

Watt - the electrical unit of power or rate of doing work

Kilowatt - 1,000 watts

Kilowatt-hour - The amount of electric energy used or 1,000 watts used for one hour

Note: Calculations are based on an average rate of 7 cents per kilowatt-hour.

Sara Way, who retired as Santee Cooper's supervisor of Marketing Support Services in June with 33 years of service, joined Santee Cooper at a time when appliances were adding modern conveniences to our lives.


AMUSEMENT

It's One Last Bow for the Myrtle Beach Pavilion Amusement Park

Everyone loves the Myrtle Beach Pavilion Amusement Park but not everyone who loves the Pavilion actually pays to enjoy its offerings. It has evolved to become an ideal, where many generations of people store their positive memories but as a business, time has passed it by.

Pat Dowling, Burroughs & Chapin Co.

As the summer of 2006 winds down, the next few months afford the last opportunity to experience the Myrtle Beach Pavilion Amusement Park before it becomes a part of Grand Strand history.

Earlier this year, Myrtle Beach-based Burroughs & Chapin Co., owners of the 11-acre Pavilion complex, announced this would be the attraction's last season in the sun. To generations of Carolinians, their memories of their experiences at the Pavilion embody and define Myrtle Beach.

With its non-alcoholic teen nightclub, The Attic, a focal point of the "see and be seen" Ocean Boulevard, the complex is definitely going out in style. It would have been easy for its owners to simply announce, perhaps sometime after Labor Day, that the Pavilion

Left: *A colorful neon sign invites children of all ages to explore the sights and sounds of the Myrtle Beach Pavilion Amusement Park.*
Above: *The Attic at the pavilion is a drawing card for teens who want to dance and perhaps find a little romance along the Grand Strand.*

Above: *With the closing of the pavilion this year, Myrtle Beach will lose a live music venue.*
Right: *A seaside amusement park is fast becoming a memory along the East Coast.*

would simply not reopen. It's something that B&C didn't really consider.

"Burroughs & Chapin promised that the 'farewell season' of the Pavilion would be one of excitement, as well as a time for those who love the Pavilion to reflect upon all the good times they've had there," said Tim Ruedy, vice president of operations of B&C's sports, entertainment and recreation division. "So, we've assembled a lineup of activities that embodies the spirit of the Pavilion and The Attic. It's a mix of musical performances, shagging exhibitions, fantastic fireworks and even a 'last ride' day with unlimited rides and special commemoratives."

Music has always been a big part of what the Pavilion experience is all about. One of the early performers at the Pavilion was the late bluegrass legend Roy Acuff, who took the stage in 1949.

Through the years, The Attic (first known as The Dance Hall and then The Magic Attic) has showcased in addition to pop music, beach music stalwart such as General Johnson and the Chairmen of the Board. Their top 40 and beach music hits from the early 1970s include "Give Me Just a Little More Time" and "You've Got Me Dangling on a String." See them on July 5 for a free outdoor concert, part of a special concert series.

"Throughout the summer, a series of concerts sponsored by the Pavilion will be presented on the Pavilion boardwalk stage," Ruedy said. "These events will be known as the 'Pavilion Farewell Season Sun Fun Concert Series' and will be held on Fridays, ending with the Beach, Boogie and BBQ Festival," set for Sept. 1 and 2.

The Attic's house band for over a decade, Sugarcreek, is getting back together on July 9 for a special reunion concert inside the Pavilion. But while baby boomers can shag the night away and teens will enjoy the latest hits from the The Attic's disc jockey, children of all ages have the opportunity to ride the 49 rides one last time.

In addition to the usual kiddie fare, the Pavilion

amusement park features the Hurricane Category 5, billed as the state's biggest roller coaster. There are two showpieces inside the park that have historical significance.

"The Herschell-Spillman carousel dates back to 1912," said Ruedy. "While most carousels feature an assortment of horses, the Pavilion's carousel features a menagerie of animals including frogs, lions, ostriches, zebras, giraffes, roosters and even dragons. The 'lead horse,' which is in fact a horse, is bejeweled and decorated in the finest detail and, as tradition demands, is found on the outside row of the carousel." It is one of about 15 working Herschell-Spillman carousels still working in the U.S.

Also of note is the Baden Band organ, manufactured in Germany. This particular organ made its 1900 debut in Paris, France at the World Exposition. It has wooden decorations and ornate figurines, all hand-carved.

"After the exposition, it was moved from town to town in Europe on a wagon pulled by a team of six horses," Reudy said. "The organ is 20-feet long, 11-feet high, 7-feet deep and weighs approximately two tons. It has 400 different pipes, 98 keys and still operates with old-style cardboard music, most of which was composed more than 50 years ago. The organ remains in excellent condition, complete with twirling ladies and cherubs that play cymbals, bells and drums."

The fate of the carousel has not been determined.

Pavilion History

The long history of the Pavilion goes all the way back to the Seaside Inn, Myrtle Beach's first hotel. Also a B&C property, the inn was constructed in 1901. This first Pavilion building, a one-story structure made of wood was attached to the inn and used as an annex. It was not directly on the oceanfront. It burned to the ground in 1920.

In 1925, B&C constructed another wooden Pavilion, this time a two-story building located on the oceanfront. Then in 1944, a fire claimed this second structure. In 1948, the company decided to build a third Myrtle Beach Pavilion and this time the building was quite different.

"With walls of steel-reinforced concrete, it was the first building of its kind along the Grand Strand," said Ruedy. "It weathered Hurricane Hazel in October 1954, which destroyed much of Myrtle Beach's oceanfront. It is this building that remains in use today."

The same year the third Pavilion building opened, a traveling carnival performed at an annual tobacco festival in nearby Conway. The carnival attracted the interest of B&C officials. A deal was struck whereby the carnival quit the road and set up shop on the west side of Ocean Boulevard, across from the Pavilion.

"The attraction featured ice skaters, bear acts, dance troupes and talent shows," Ruedy said. In 1950, another chapter was added to the Pavilion's long and illustrious history when B&C purchased the Central Amusement Co., adding the firm's 14 rides to the now developing park.

Said Ruedy, "It took 38 trucks to haul in the new rides, and concession stands were also added. After that, the pace of the amusement park's evolution quickened as company representatives traveled far and wide in the United States and abroad, searching for new rides for Myrtle Beach residents and vacationers to enjoy. When it came to family entertainment, for decades the Myrtle Beach Pavilion amusement park was without peer or competition."

Myrtle Beach Today

While the Pavilion has remained a well-maintained, safe and attractive place, the rest of what it means to come and experience Myrtle Beach has changed dramatically. According to the latest statistics from the S.C. Department of Parks, Recreation and Tourism, about 13.2 million visitors annually beat a path to Myrtle Beach. This represents an annual $4 billion infusion to the Grand Strand economy.

No longer an exclusively seasonal destination, Myrtle Beach's vibrant entertainment

and musical landscape includes Calvin Gilmore's Carolina Opry and the franchised House of Blues, plus Dolly Parton's dinner theater show and the Dixie Stampede.

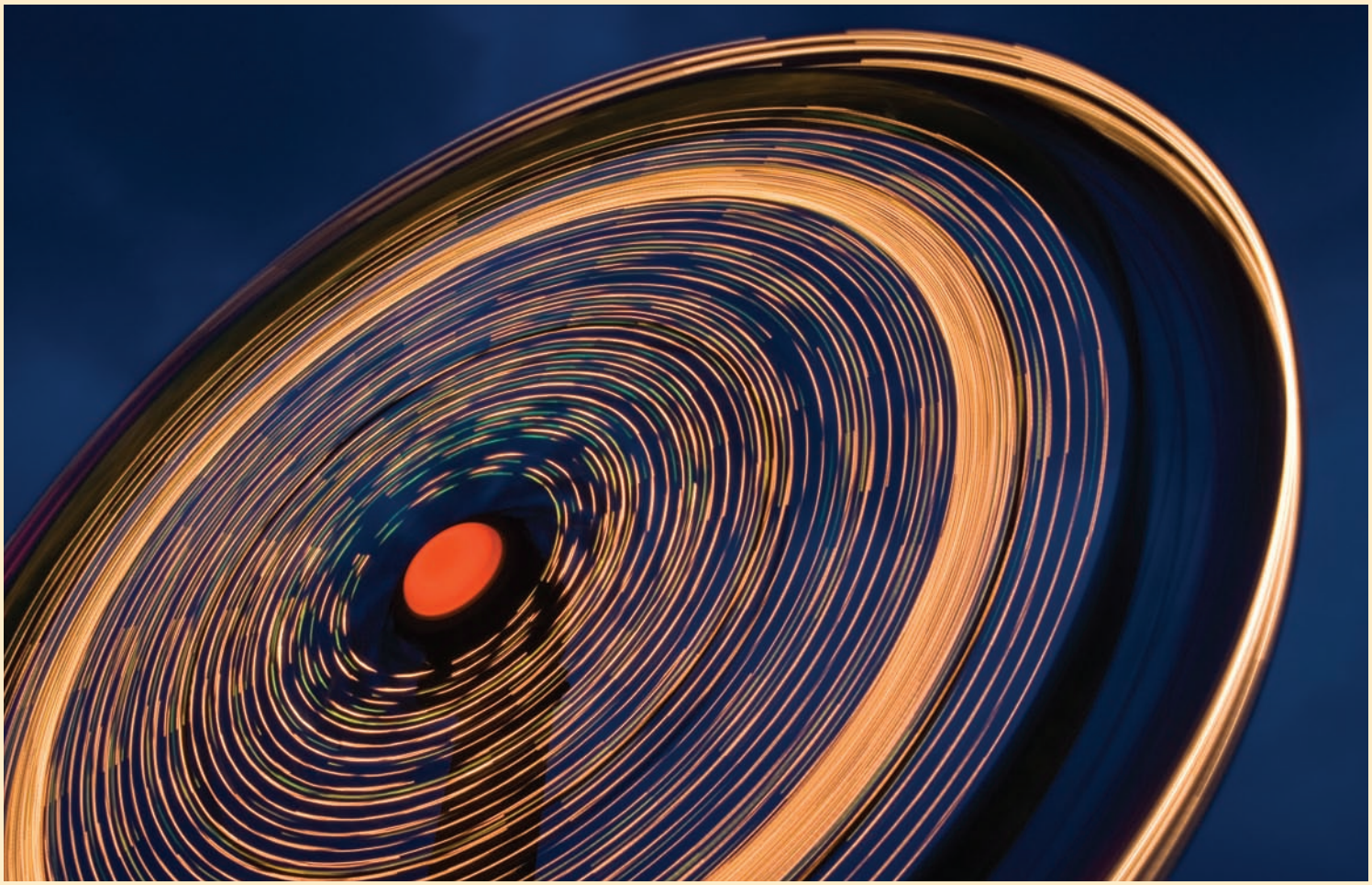
B&C has also introduced diversity to the Grand Strand's offering with its 350-acre Broadway at the Beach entertainment, shopping and dining district, NASCAR SpeedPark, Myrtle Waves Water Park, Coastal Grand-Myrtle Beach Mall, MagiQuest and more. The city's streets no longer roll up after Labor Day as those and many other Grand Strand attractions aren't really so seasonally based.

Left: *Pavilion rides have always been well-maintained and colorfully attractive, two ingredients for success in the amusement park business.*
Right: *Having fun whets the appetite and a concession stand can get crowded on a busy night.*

The golf scene has matured to year round appeal to Northerners who don't mind playing chilly rounds. No one disputes that Myrtle Beach is one of America's top golf destinations.

So, it hasn't been just one thing that's contributed to the Pavilion's ultimate demise. There's just so much more to do, and people only have so many discretionary dollars to spend. Many factors contributed, but the trump card for B&C was that attendance has been steadily declining.

In its heyday, a summer season for the Pavilion meant close to 1.5 million people entered the turnstiles. Last year, around 450,000 people



actually paid to ride the rides there, despite the recent infusion of new rides such as the $5 million Hurricane Rollercoaster, continued upkeep of the park's many rides and a strong focus on positive customer service.

When word about the Pavilion's closing spread, there was a brief public gnashing of teeth and even several petition movements to "save the Pavilion." But, ironically, the passion displayed by Pavilion enthusiasts is not reflected in the park's actual attendance numbers.

"Everyone loves the Myrtle Beach Pavilion Amusement Park," said Pat Dowling, B&C's vice president of corporate communications. "But not everyone who loves the Pavilion actually pays to enjoy its offerings. It has evolved to become an ideal where many generations of people store their positive memories but as business, time has passed it by."

So, if the Myrtle Beach Pavilion is etched in your memory, it just might be the place for you to make a seaside sojourn while you've still got a chance. And, if you've never been to the Pavilion, this "farewell season" represents your last opportunity.

Go to mbpavilion.com for details on all of the events set for this last summer at the Myrtle Beach Pavilion. The "Last Ride" Park Experience is set for Saturday, Sept. 30.

Left page: *At night, an amusement park is a colorful place of motion and magic, a temporary escape from the world.*

Top: *Pinball machines, an arcade mainstay for many decades, still occupy a place at the Pavilion.*

Bottom: *Rides have evolved through the years with space age themes becoming more common since man began exploring the heavens in the 1960s.*

NewSource

Santee Cooper Earns APPA's RP3 Award

Santee Cooper has earned the Reliable Public Power Provider (RP3) recognition from the American Public Power Association for providing customers with the highest degree of reliable and safe electric service.

The Reliable Public Power Provider recognizes public power utilities that demonstrate proficiency in four key disciplines: reliability, safety, training and system improvement. This is the first year that the award was offered.

"Our mission is to provide the communities we serve with excellent customer service and reliable power at the lowest cost possible. To be acknowledged for doing a superior job is an honor," said Santee Cooper Vice President of Retail Operations Zack Dusenbury. "We're extremely pleased to be recognized with this award, especially at a time of rapid customer growth and increased demands."

Mini-bonds Again Offered by Santee Cooper, Beginning Sept. 21

For the third consecutive year, Santee Cooper will offer mini-bonds to its customers and to all the citizens of South Carolina. The state-owned electric and water utility previously sold mini-bonds from 1988-1993. To date, funds raised total just over $195 million.

Santee Cooper Mini-Bonds are a great savings tool for things like retirement, a child's college education or a special gift for grandchildren. They are a tax-free savings instrument offered by a stable and financially healthy utility, exemplified by the ratings given by three major rating agencies.

These bonds are issued to finance equipment and on-going capital improvements to the utility's generating and transmission systems, including current construction of two new units at Cross Generating Station, a $1.4 billion capital expenditure.

Another capital project for which the mini-bond funds will be used is the new coal-fired generating station Santee Cooper plans to build in Florence County. It is a 600-MW facility expected to be online in 2012.

Also, Santee Cooper continues to explore nuclear power as a viable option in conjunction with SCE&G at the V.C. Summer Nuclear Station.

Santee Cooper will offer Capital Appreciation Mini-Bonds in $200 increments and Current Interest Bearing Mini-Bonds in $500 increments. The maximum combined purchase is set at $10,000 per individual. However, if a married couple buys bonds jointly, they may purchase up to $20,000.

Orders will be accepted Sept. 21 through Oct. 17. The Santee Cooper's Board of Directors will approve the sale at their Oct. 20 meeting.

To request an information package, call toll-free (877) 246-3338. Completed order forms and payment must be received by Oct. 17.

Beginning Aug. 1, go to www.santeecooper.com/minibonds/ for up-to-date information about the program.

Builders FirstSource Facility Breaks Ground

Builders FirstSource will invest $5 million in a new truss manufacturing facility at the Loris Commerce Park in Loris, S.C. The company is expected to create up to 150 jobs over the next five years, making for strong economic development news in Horry County. Power to the facility will be provided by Santee Cooper.

The groundbreaking was held on June 29 with officials from Santee Cooper, Builders FirstSource, the State Department of Commerce, The Myrtle Beach Regional Economic Development Corporation, The City of Loris and Horry County on hand.

Builders FirstSource, headquartered in Dallas, Texas, is a leading supplier and manufacturer of structural and related building products for residential new construction. For more company information, visit their Web site at www.bldr.com.

Hurricane Season Began June 1; Santee Cooper is Prepared

Part of life in South Carolina's Lowcountry is the 183-day hurricane season, occurring June 1 through Nov. 30 each year. Santee Cooper's direct serve retail customers are in what are classified as coastal counties. Because of that, Santee Cooper must be prepared, at home and at work.

According to a report from CNN, the "2005 hurricane season blew the records away." Of the 27 named storms, 13 were hurricanes with seven causing major damage. Early reports indicate that this hurricane season could be comparable.

What are the names for this year's season? They are as follows:

Alberto
Beryl
Chris
Debby
Ernesto
Florence
Gordon
Helene
Isaac
Joyce
Kirk
Leslie
Michael
Nadine
Oscar
Patty
Rafael
Sandy
Tony
Valerie
William